ABSTRACT

A method for improving the performance of a distributed object model over a network is disclosed. A client computer contains a client object which can call an interface on a server object located on a server computer. Rather than copying all of the call parameters into an RPC buffer for transmission across the network, a network interface card with scatter-gather capability can be used. The RPC data can contain only a list of pointers into the client memory and a size of each parameter. The network interface card can then grab the parameters directly from the client memory using the list in the RPC buffer without the need to copy the data itself. At the server side, the network interface card can place the parameters into an RPC buffer, or if the size is known beforehand, directly into the server memory. The server can also access the parameters directly from the RPC buffer. On the return, the server can use a callback function to indicate when its network interface card has finished sending the response data so that the server does not clear its memory prematurely. At the client side, if the size of the response is not known, and the data is placed into the RPC buffers, it can be copied from the RPC buffer into the client memory.